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C3
Cord.
45. (Once Amended) An isolated protein comprising [containing the] amino acid [sequence: Gln Gln Leu Leu Ser Ser Ile Glu Pro Leu Arg Glu Lys Asp Lys His] residues 660-675 of amino acid sequence SEQ ID NO:4.

8 50. (Once Amended) An isolated protein comprising [containing] at least one of the following peptide domains contained within the amino acid sequence depicted in SEQ ID NO:6: an SH2 domain [a Src homology 2 peptide domain]; an SH3 domain [a Src homology 3 peptide domain]; and a catalytic domain [Tyrosine kinase peptide domain].

C4
9 51. (Once Amended) An [The] isolated protein [of Claim 50 containing] comprising at least one of the following amino acid [sequence] sequences depicted in SEQ ID NO:6 [selected from the group consisting of]: amino acid residues 122 to 201; amino acid residues 54 to 112; and amino acid residues 247 to 486[, as depicted in SEQ ID NO:6].

Sub D1
52. (Once Amended) A fusion protein comprising the [The] isolated protein of [Claims] Claim 49 or 50[, wherein the protein is] fused to [a heterologous peptide] an amino acid sequence not naturally associated with the isolated protein of Claim 49 or 50.

REMARKS

Applicants have made several amendments to the specification. In general, the amendments correct grammatical errors.¹ Several of the amendments implement suggestions made by the Examiner in the office action. In addition, Applicants have made several amendments to the claims to comply with Sequence Rule informalities and to address the Examiner's rejections under 35 U.S.C. § 112, second paragraph. Support for the claim amendments can be found in the specification on, for example, page 8, lines 7-22; page 16, lines 12 to 23; page 19, lines 10-30; page 29, lines 29-32; Figures 1-3;

¹ Applicants note that many of the current amendments were previously presented in Applicants' Amendment and Response mailed November 12, 1996. However, on page 2 of the outstanding office action, the Examiner indicated that the amendments to the specification had not been entered because the line numbers were incorrect. The correct page and line numbers are set forth above.

and SEQ ID NOS:2 and 4 of the Sequence Listing. Applicants believe that the amendments to the specification and the claims do not entail the introduction of new matter.

Prior to the present amendments, Claims 1-13 and 23-55 were pending. Claims 31, 34, 40, 41, 48, 49, and 55 have been allowed.² Claims 32, 33, 35, 36, 38, 39, 42-44, 46, 47, and 50-54 stand rejected, whereas Claims 37 and 45 are objected to. Applicants have canceled Claims 1-13, 23-30, 38, 39, 46, 47, 53, and 54 without prejudice to future prosecution of the subject matter related thereto.³

INFORMAL MATTERS

The Examiner stated that the amino acid sequence set forth in Figure 6 is not a continuous sequence, whereas the corresponding sequence set forth in SEQ ID NO:6 is a continuous sequence. [Office Action, p. 3]. Initially, it appears that the Examiner meant to refer to Figure 3 (not Figure 6), which discloses SEQ ID NO:6.4 As indicated by the arrow in Figure 3, the correct amino acid sequence of MKK3 begins "Met-Ser-Asn-Ile-Cys . . .". Therefore, Applicants have deleted the first five amino acid residues of SEQ ID NO:6. Applicants respectfully assert that Figure 3 supports this amendment. Pursuant to 37 C.F.R. § 1.825(a) and (b), Applicants submit herewith substitute sheets of the Sequence Listing and a substitute copy of the computer readable form thereof. The substitute sheets contain no new matter, and the computer readable form contains the same information as that set forth in the substitute sheets.

The Examiner stated that the Brief Description of the Figures indicates that the signal sequence is marked, but that Figures 1-3 do not depict a signal sequence. Human MKK1, MKK2, and MKK3 do not possess a signal sequence; the specification inadvertently states that the signal sequence is marked in the figures. The description of Figures 1-3 has been amended accordingly.

² Applicants have amended Claim 34 to indicate that the amino acid sequence comprises residues 48-111, not 49-111. Support for this amendment can be found in the specification (e.g., Figures 1A and 1B) and the claims (e.g., Claim 33). Applicants respectfully request that the Examiner enter this amendment.

³ The Examiner withdrew Claims 1-13 and 23-30 from further consideration as being drawn to non-elected subject matter.⁴ Applicants also note that Figure 6 does not disclose any amino acid sequence information.

REJECTIONS OF THE CLAIMS

Applicants believe that the amendments set forth above, in conjunction with the discussion presented below, traverse the Examiner's rejections of the claims and place the claims in position for allowance.

1. Amended Claims 37 And 45 Comply With the Sequence Rules

The Examiner objected to Claims 37 and 45 as not referring to sequence identifiers in compliance with 37 C.F.R. § 1.821(d). Amended Claims 37 and 45 refer to the applicable sequence identification numbers (SEQ ID NO:2 and SEQ ID NO:4, respectively), thus rendering this rejection moot. In addition, pursuant to the Examiner's suggestion, page 40 of the specification has been amended to recite the appropriate sequence identification numbers. In view of the amendments, Applicants respectfully request that the objection be withdrawn and amended Claims 37 and 45 be passed to allowance.

2. Claims 38, 39, 46, 47, 53, and 54 Have Been Canceled

The Examiner rejected Claims 38, 39, 46, 47, 53, and 54 under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter that was not described in the specification a) so as to indicate that Applicants possessed the claimed invention at the time of filing and b) in a manner that enables one skilled in the art to practice the invention. Without acquiescing to the propriety of the Examiner's rejections and merely to expedite issuance of the instant application, Claims 38, 39, 46, 47, 53, and 54 have been canceled; Applicants reserve the right to pursue the subject matter of the canceled claims in any related application. Therefore, the rejections have been rendered moot.

3. Amended Claims 32, 33, 35, 36, 42-44, and 50-52 Are Patentable Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected Claims 32, 33, 35, 36, 38, 39, 42-44, 46, 47 and 50-54 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. As set forth above, Claims 38, 39, 46, 47, 53, and 54 have been canceled. Applicants respectfully assert that amended Claims 32, 33, 35, 36, 42-44, and 50-52 are patentable.

Regarding Claims 32, 33, 42, 43, 50, and 51, Applicants believe that the claims in their amended form address the Examiner's rejections on page 5 of the Office Action regarding allegedly improper Markush language and the use of "SH2" and "SH3". Applicants respectfully assert that these claims are now in position for allowance.

Without acquiescing to the Examiner's rejection of Claims 35, 36, 44, and 52, the claims have been amended to specifically recite a fusion protein comprising an isolated protein (as described in one or more claims) and an amino acid sequence not naturally associated with the isolated protein. Applicants contend that the amended claims are definite and should be passed to allowance.

4. Amended Claims 43 And 51 Have Been Rewritten In Independent Form

The Examiner objected to Claims 39, 43, 47, 51, and 54 under 37 C.F.R. § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of the claims from which they depend. As previously indicated, Claims 39, 47, and 54 have been canceled. At the Examiner's suggestion, Claims 43 and 51 have been rewritten in independent form. Applicants respectfully assert that the amended claims are in position for allowance.

CONCLUSION

Entry of the foregoing remarks into the file of the above-referenced patent application is respectfully requested. Applicants believe that each ground for rejection and objection has been successfully overcome or obviated and that the claims are in condition for allowance. If any issues remain in connection with this application, Applicants encourage the Examiner to call the undersigned collect at (212) 790-9090.

No additional fee is believed to be due with this Amendment. However, the Commissioner is hereby authorized to charge any fees associated with this Amendment to Pennie & Edmonds LLP Deposit Account No. 16-1150. A copy of this sheet is enclosed.

Respectfully submitted,

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Date: June 11, 1997

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Enclosures